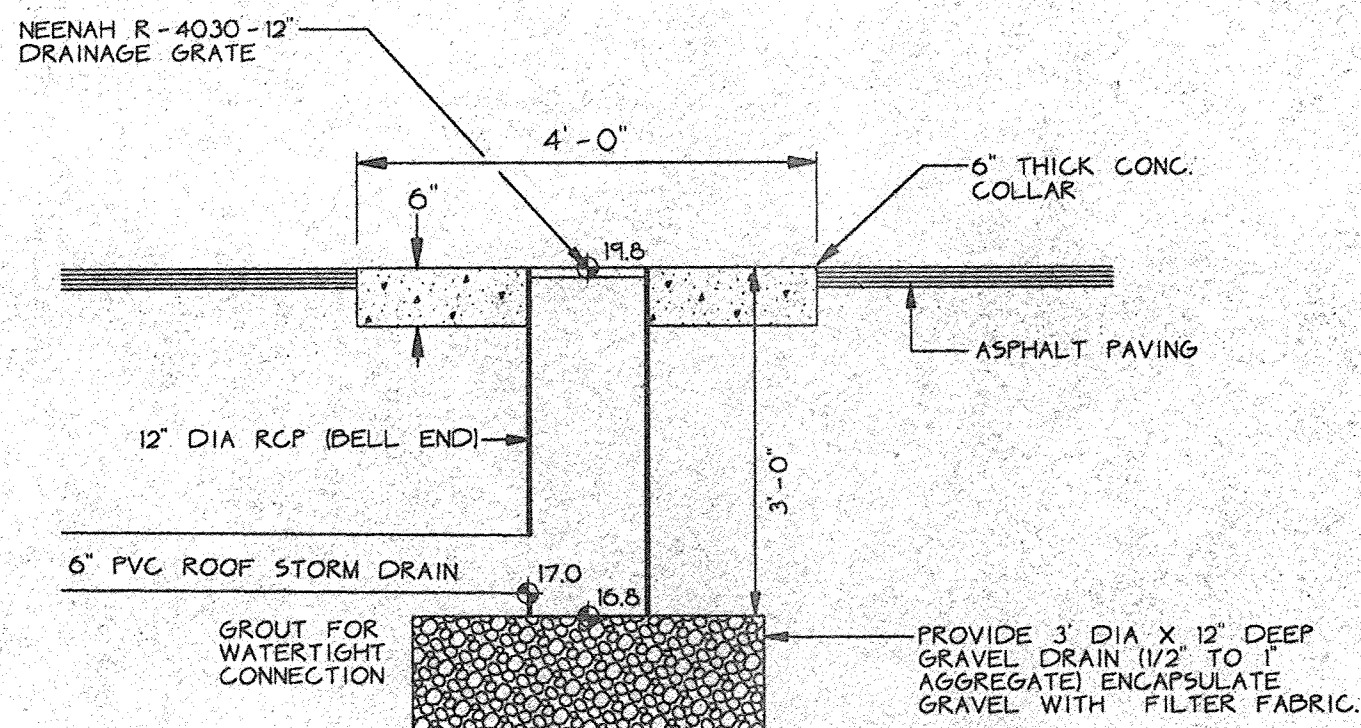
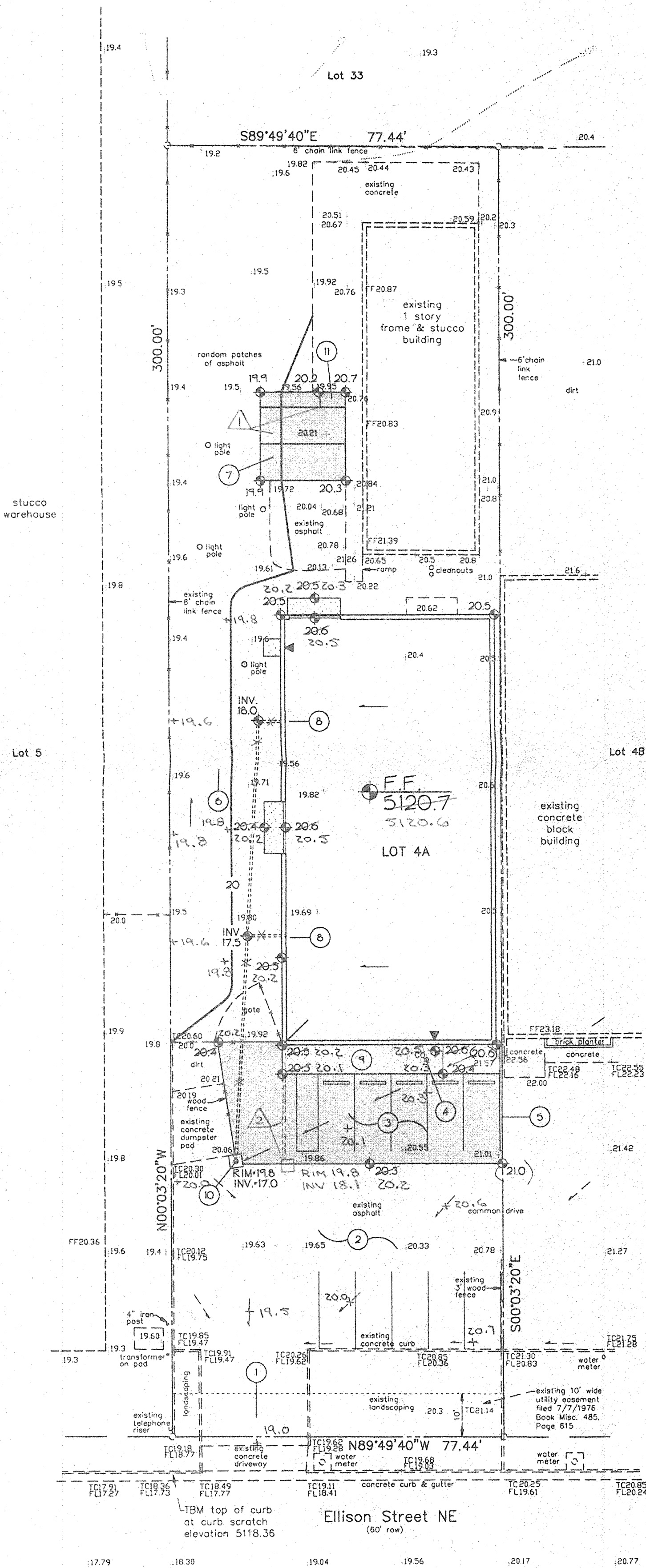


1" = 20'



ROOF DRAIN OUTLET TO PAVEMENT

- LEGEND**
- SIDEWALK, CURB AND GUTTER (EXISTING, PROPOSED)
 - PROPOSED PAVED DRIVE
 - BUILDING (EXISTING, PROPOSED)
 - PROPERTY LINE
 - x 65.7 EXISTING SPOT ELEVATION
 - 20 EXISTING CONTOUR
 - 75.2 PROPOSED SPOT ELEVATION
 - 30 PROPOSED CONTOUR
 - SURFACE FLOW DIRECTION (EXISTING, PROPOSED)
 - LA LANDSCAPED AREA
 - TGW TOP OF GRADE WALL (< 18" HIGH)
 - TRW TOP OF RETAINING WALL (> 18" HIGH)
 - TA TOP OF ASPHALT
 - TC TOP OF CURB
 - FL FLOW LINE
 - FF FINISHED FLOOR
 - R/W RIGHT OF WAY
 - PL PROPERTY LINE
 - PP POWER POLE
 - ▲ ENTRY / EXIT LOCATION

- SCOPE**
- Proposed improvements include an approximately 5,000 SF (footprint) commercial building with minimal site improvements. The present site is a developed commercial property with site flows splitting half to the north commercial property and 1/2 to south. Ellison Street NE abuts the site to the south. The properties to the east, north and west are developed commercial.
- The intent of this plan is to show:
- Grading relationships between the existing ground elevations and proposed finished elevations in order to facilitate positive drainage to designated discharge points.
 - The extent of proposed site improvements, including buildings, walks and pavement.
 - The flow rate/volume of rainfall runoff across or around these improvements and methods of handling these flows to meet City of Albuquerque requirements for drainage management.
 - The relationship of on-site improvements with existing neighboring property to insure an orderly transition between proposed and surrounding grades.
- DRAINAGE PLAN CONCEPT:** Roof flows will be captured in a gutter / storm drain system and released at the southeast corner of the existing concrete dumpster pad where the flows will free discharge to Ellison Street NE. Flows will then travel a short distance west within Ellison Street, cross Washington Street, pass through a drainage easement and enter the Arroyo Del Pino (A.M.A.F.C.A.). The remainder of the site will continue to drain along historical flow paths.
- GENERAL NOTES**
- LEGAL:** Lot 4A, Tract C, Unit III, Interstate Industrial Tract
- SURVEYOR:** Forstbauer Surveying Co., February, 1998
- B.M.:** City of Albuquerque 9-D-17. A 60 penny nail in the north pole of pylon #RE10. Located along an electric transmission line, 0.50 miles west of I-25 and on the projected centerline of San Antonio Drive NE. Elevation = 5124.40 (M.S.L.D.)
- T.B.M.:** Top of curb at curb scratch - Southwest property corner - Elevation = 5118.36 (M.S.L.D.)
- FLOOD HAZARD:** Per FEMA Boundary Map #9, the site is not located in a flood zone.
- OFF-SITE DRAINAGE:** Based on the Topographic Survey and site visit, the off-site drainage crossing this site is limited to the common asphalt parking lot along Ellison Street NE.
- EROSION CONTROL:** The contractor is responsible for retaining on-site all sediment generated during construction by means of temporary earth berms or silt fences at the low points on the west property line.

CALCULATIONS:			
Calculations are based on the Drainage Design Criteria for City of Albuquerque, Section 22.2, DPM, Vol 2, dated Jan., 1993			
ON-SITE			
AREA OF SITE:	23232	SF	= 0.53 Ac.
HISTORIC FLOWS:		EXCESS PRECIPITATION:	
On-Site Historic Land Condition	On-Site Developed Land Condition	Precip. Zone	2
Area a = 0 SF	Area a = 0 SF	Ea =	0.53
Area b = 0 SF	Area b = 0 SF	Eb =	0.78
Area c = 6580 SF	Area c = 6580 SF	Ec =	1.13
Area d = 16652 SF	Area d = 16652 SF	Ed =	2.12
Total Area = 23232 SF	Total Area = 23232 SF		
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)			
Weighted E =		$EaAa + EbAb + EcAc + EdAd$	
		$Aa + Ab + Ac + Ad$	
Historic E = 1.84 in.	Developed E = 1.84 in.		
On-Site Volume of Runoff: V360 = $E^*A / 12$			
Historic V360 = 3561 CF	Developed V360 = 3561 CF		
On-Site Peak Discharge Rate: $Qp = QpAa + QpAb + QpAc + QpAd / 43.560$			
For Precipitation Zone 2			
Qpa = 1.56	Qpd = 1.14		
Qpb = 2.28	Qpd = 4.70		
Historic Qp = 2.3 CFS	Developed Qp = 2.3 CFS		
The additional development of this property represents no overall increase in flows. New Building area replaces existing asphalt paving to be removed.			
BASIN DRAINING TO ELLISON			
Area of flows = 12215 SF	= 0.28 Ac.	Precip. Zone	2
The following calculations are based on Treatment areas as shown in table to the right			
Off-Site Weighted Excess Precipitation (see formula above)		TREATMENT	
Weighted E = 2.05 in.		A =	0%
Off-Site Volume of Runoff (see formula above)		B =	0%
V360 = 2093 CF		C =	7%
Off-Site Peak Discharge Rate: (see formula above)		D =	93%
Qp = 1.3 cfs			

Note: Approx. 0.5 cfs of this basin are roof flows which will drain through the proposed gutter / storm drain system. See separate worksheet for Storm Drain Calculations. The proposed 6" pipe has the capacity to carry 0.73 cfs running full.

This represents an increase in flows to Ellison Street NE. Prior to development, the proposed building area drained north. The gutter / storm drain system now carries these flows south where they free discharge to Ellison Street NE. Flows will then travel a short distance west within Ellison Street, cross Washington Street, pass through a drainage easement and enter the Arroyo Del Pino (A.M.A.F.C.A.).

BASIN DRAINING TO REAR OF PROPERTY														
Area of flows =	10987	SF	=	0.25 Ac.										
Precip. Zone	2													
The following calculations are based on Treatment areas as shown in table to the right														
Off-Site Weighted Excess Precipitation (see formula above)														
Weighted E =		1.58 in.												
Off-Site Volume of Runoff (see formula above)														
V360 =		1443 CF												
Off-Site Peak Discharge Rate: (see formula above)														
Qp =		1.0 cfs												
<table border="1"><thead><tr><th colspan="2">TREATMENT</th></tr></thead><tbody><tr><td>A =</td><td>0%</td></tr><tr><td>B =</td><td>0%</td></tr><tr><td>C =</td><td>55%</td></tr><tr><td>D =</td><td>45%</td></tr></tbody></table>					TREATMENT		A =	0%	B =	0%	C =	55%	D =	45%
TREATMENT														
A =	0%													
B =	0%													
C =	55%													
D =	45%													

This represents a decrease in flows to the rear of the property.

AREAS OF MODIFICATION BETWEEN APPROVED DRAINAGE GRADING PLAN AND ACTUAL AS-BUILT

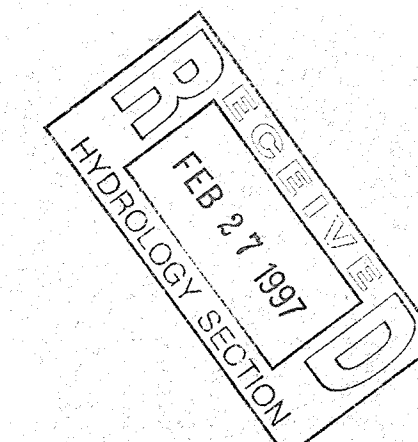
- Asphalt parking pad / ramp not constructed. Acceptable - does not affect approved drainage patterns.
- Storm drain relocated along west edge of new building. Roof drain outlet relocated as shown. Based on field testing, the system works per plan. Acceptable - does not affect approved drainage patterns.

I, Christopher L. Weiss, P.E. hereby certify that the as-built information shown is in substantial compliance with the approved drainage / grading plan.

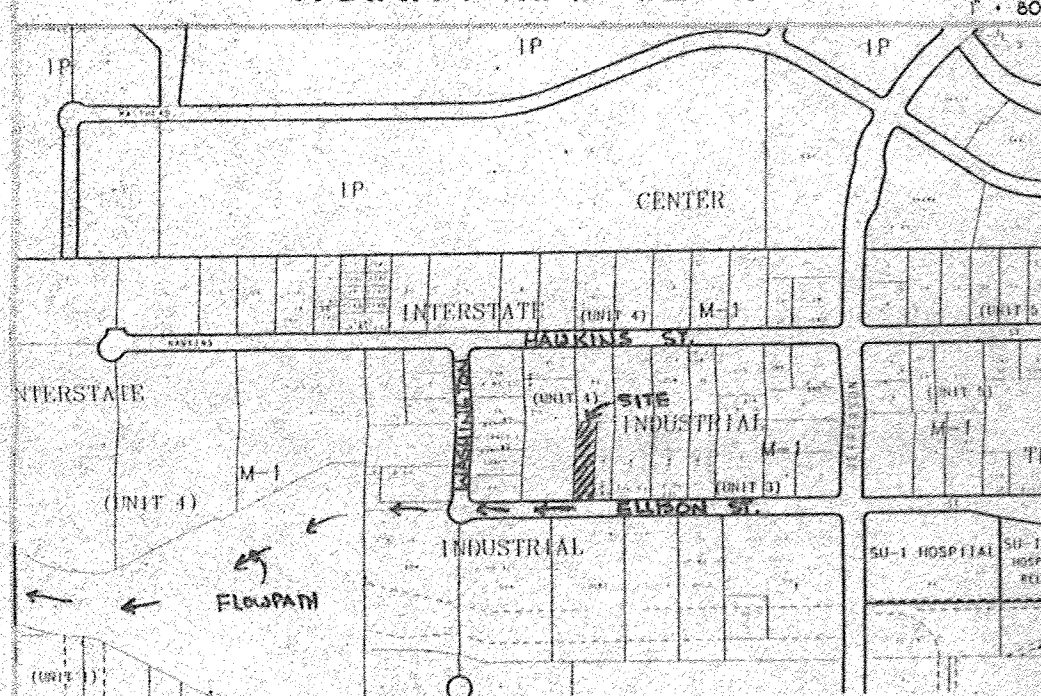
Christopher L. Weiss, P.E. (N.M.P.E. #6653) Date: 2-26-99
As-Built Survey provided by Forstbauer Surveying Co. - Feb. 1997

KEYNOTES

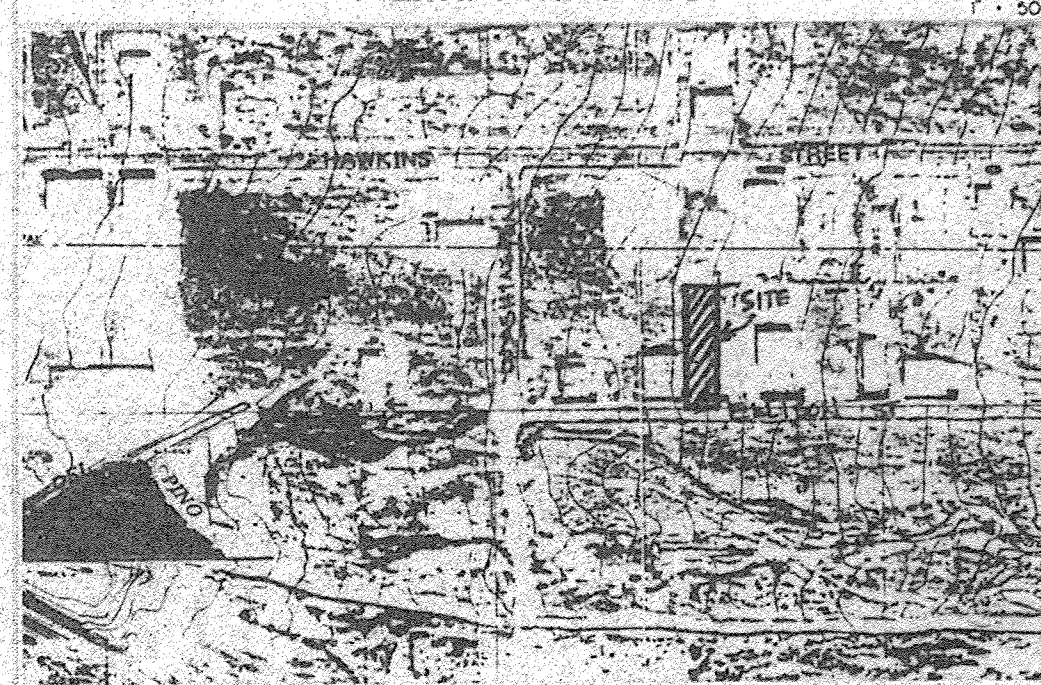
- EXISTING PAVED ACCESS DRIVE.
- EXISTING PAVED PARKING. SEE ARCHITECTURAL SITE PLAN FOR NEW STRIPING.
- NEW ASPHALT PAVING THIS AREA. MATCH EXISTING PAVING SECTION AND ELEVATION. PROVIDE SMOOTH RIDING TRANSITION. PROVIDE DRAINAGE SWALE (5'-10') AS INDICATED BY FLOW ARROWS.
- ADJUST EXISTING CLEANOUT AS REQUIRED. SEE ARCHITECTURAL SITE PLAN FOR ADDITIONAL DEMOLITION / REVISION NOTES.
- CONSTRUCT HEADER CURB THIS AREA.
- NEW GRAVEL PAVING. SEE ARCHITECTURAL SITE PLAN FOR EXTENTS.
- NEW 20' X 20.5' ASPHALT PARKING PAD.
- ROOF FLOWS TO BE COLLECTED IN A STORM DRAIN AND RELEASED IN PARKING AREA. SEE ARCHITECTURAL FOR SPECIFIC GUTTER OUTLET POINTS. SLOPE STORM DRAIN PIPE 1:01.
- NEW CONCRETE WALK FLUSH WITH EXISTING ASPHALT PAVING.
- ROOF DRAIN OUTLET. SEE DETAIL THIS SHEET.
- NEW ASPHALT RAMP.



VICINITY MAP #D-17



FEMA MAP #9



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Revisions

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ALLIANCE APPLIANCE 4121 ELLISON NE

Scale: 1" = 20' Drawn By: BJB Checked By: CLW Job Number: Date: MAY 1996

Drainage and Grading Plan

C-1
Sheet 1 of 1